over the right parietal bone, the opening enlarged and the abscess discovered and drained. Death took place two days later, a post-mortem examination disclosing the state of affairs already mentioned.

C. L. Allen (Los Angeles).

Some Morphological Peculiarities in the Spinal Ganglia of Mammals. Ottorino Rossi (Journal f. Psychologie u. Neurologie, Vol. XI., Heft 1–2).

The author asserts that the cell of the spinal ganglia which was hitherto considered a very simple structure is a very complicated structure when examined by the reduced silver method of Ramón y Cajal. By investigating some of the morphological peculiarities of the spinal ganglia cells, conclusions can be drawn to support the new views in the realms of the general pathology of the nervous system. The theory of the so-called "collateral regeneration" formulated by Nageotte and accepted by Cajal is especially considered. The object of the investigation is to find out which formations of the spinal ganglia are normal, or rather constant, and which are connected with morbid processes, and whether any of these formations give evidence of being carriers of any regenerating activity.

The first cell type considered is the "celulas desgarradas o seniles" described by Cajal and found by him in persons over sixty. Marinesco employed the same methods and found these cells in a case of general paresis who died at the age of forty-five. The author found them in a twenty-year-old man who died of pneumonia, and in a twenty-two-year-old woman who died of typhoid. Both cases showed no nervous lesion. The same cells he also found in a young dementia præcox. The characteristic expansions of the cell body, the supposed continuations of the protoplasm, which according to Cajal especially belong to senility, and which Marinesco found in some diseases of the nervous system, were observed by Levi in the spinal ganglia of chelonia and also in some teleosts and in a young cow by the author, who concludes that they are not exclusive morphological manifestations pointing to an abnormal state of the ganglia cells.

After briefly reviewing Golgi's meshes the so-called theory of "collateral regeneration" is considered. Cajal in his work on the ganglia called attention to a morphological peculiarity also observed by Huber and mentioned by Barker which he called "bola." A bola is the globular swelling found on the end of the fibrous continuation of the ganglia cells. Cajal assumed them to be organs which might have certain kinesthetic functions or sensibility, and through which the cells and eventually the cord may receive a definite stimulation destined to regulate the sympathetic system of the blood vessels. Levi later found these bolas in mammals and showed that they were fibrillary structures. Nageotte formulated the most original hypothesis about them. As he observed them to be more abundant in the ganglia of tabetics than in normals, he concluded that they were the exponent of a special and characteristic regeneration which he called "collateral regeneration" to distinguish it from the terminal regeneration occurring when the continuity of a nerve is broken. He, however, states that this regeneration does not gain its purpose. This hypothesis was accepted by Cajal, Dejerine and Thomas, but Levi found bolas in the appendages of cells in many animals at a very early period of their ontogenetic development, he also found that almost all cells in the cerebral ganglia of primates have club-shaped appendages. The logical consequence of Nageotte's theory would be that almost all cells of those ganglia, even in normal conditions, are in a process of regeneration. It is also inconceivable that regenerative processes should be most intense in such diseases as tabes and general paralysis. The same formation can also be found in individuals not afflicted with these diseases. Nageotte's conception should be considered only as a hypothesis having many weak sides and not in accord with many familiar facts. The author illustrates his points with many pretty drawings.

A. A. Brill (New York).

Sensory Dissociation as a Symptom. H. Mettler (Journal A. M. A., February 8).

Using as a text a case of syringomyelia which is quite fully reported, the author discusses the subject of sensory dissociation, pointing out that the so-called syringomyeliac syndrome, loss of pain and temperature sense with preservation of the tactile sense, is no longer to be considered pathognomonic. It is to-day an established fact that syringomyelia can exist without the dissociation syndrome and that the latter can occur without the former. The lack of stability and uniformity of the syndrome in syringomyelia and the occasional involvement also of the tactile sense in this disease also affect its value as a distinctive sign. It is not only variable and unstable in syringomyelia itself, but as a syndrome, it is not infrequently observed in many other forms of disease. Mettler goes on to show that all sensations are only elaborations of the primary phenomenon of protoplasmic contact, that the distinction of the originally recognized five senses is itself really a form of sensory dissociation. The effects of drugs, of hypnotism and the recorded cases of dissociation of special senses in normal individuals are also mentioned. There are to-day, Mettler says, three hypotheses or general conceptions of the origin, nature and course of sensation. The first, and perhaps the most popular, rests on the old notion of the "specificity of nerve function"—that for every special form of sensory manifestation there is a special nervous element, either in the peripheral nerves, the peripheral end organs or the central ganglia or brain centers. The second is an almost purely psychologic one, making sensation a pure content of mind, strictly a psychosis. The third conception strives to harmonize the above somewhat opposing views. "It teaches that by means of intercalated neurones, ganglia and relay stations of gray matter an impulse that starts from the periphery as a mere chemical or molecular disturbance is so added to, modified and elaborated in its progress upward toward the center of consciousness in the brain that by the time it has arrived at these centers, and not before, it has become all that we mean by the specific term. Sensation is thus a direct product of histophysiologic activity, but it is a physiologic elaboration or summation. It does not exist at the periphery; it is only complete at the center." The author's view is that dissociation phenomena should not be looked for in mere coarse anatomic differentiation. Sensation, with all differentiations, dissociations, etc., is, in its ultimate analysis, a psychophysiologic phenomenon. "Its interpretation, therefore, involves, essentially and integrally, the interpretation and explanation of mind." Clinical dissociations are not matters of mere anatomic structure, but of disturbed functional activity. They are not very valuable symptoms *per se,* because, in the first place they are common both in normal and abnormal conditions, and in the second place they are not dependent on direct, observable, histopathologic changes, but on indirect, all but unknown and unexplainable differentiations in the extraneural stimuli and in the processes underlying pure psychoses.